

AMENDMENTS

IN THE CLAIMS:

Please amend claims 20 and 25-26 as follows:

20. (Twice Amended) A fusion protein comprising (i) an antigenic protein isolated from Mycoplasma gallisepticum causing an antibody-antigen reaction with Mycoplasma gallisepticum immune serum or Mycoplasma gallisepticum infected serum and (ii) a signal polypeptide of Herpesvirus outer membrane protein, said signal polypeptide being ligated with said antigenic protein isolated from Mycoplasma gallisepticum at the N terminus thereof, thereby to secrete said antigenic protein extracellularly.

25. (Three Times Amended) A recombinant Avipox virus having a DNA coding for a fusion protein comprising (i) an antigenic protein isolated from Mycoplasma gallisepticum and causing an antibody-antigen reaction with Mycoplasma gallisepticum immune serum or Mycoplasma gallisepticum infected serum, and (ii) a signal polypeptide of Herpesvirus outer membrane, said signal polypeptide being ligated with said antigenic protein isolated from Mycoplasma gallisepticum at N terminus thereof, thereby to secrete said antigenic protein extracellularly.

26. (Three Times Amended) A recombinant live vaccine for anti-fowl Mycoplasma gallisepticum infection comprising as an effective ingredient a recombinant Avipox virus having a DNA coding for a fusion protein comprising (i) an antigenic protein isolated from Mycoplasma gallisepticum and causing an antibody-antigen reaction with Mycoplasma gallisepticum immune serum

or Mycoplasma gallisepticum infected serum, and (ii) a signal polypeptide of Herpesvirus outer membrane, said signal polypeptide being ligated with said antigenic protein isolated from Mycoplasma gallisepticum at N terminus thereof, thereby to secrete said antigenic protein extracellularly, wherein the fusion protein is capable, upon administration into a host cell, of immunizing that cell against subsequent infection with Mycoplasma gallisepticum.

Please add new claims 27-46 as follows:

✓ 27. (New) A fusion protein according to claim 20, wherein a sequence of said signal polypeptide is amino acids 1-63 of SEQ ID NO:2 or amino acids 1-672 of SEQ ID NO:4.

28. (New) A fusion protein according to claim 20, wherein

(a) a sequence of said signal polypeptide is amino acids 1-63 of SEQ ID NO:2 and a sequence of said antigenic protein is amino acids 64-456 of SEQ ID NO:2, or

(b) a sequence of said signal polypeptide is amino acids 1-672 of SEQ ID NO:4, and a sequence of said antigenic protein is amino acids 693-1086 of SEQ ID NO:4.

29. (New) A fusion protein according to claim 20, wherein said antigenic protein causes an antibody-antigen reaction with Mycoplasma gallisepticum immune serum or Mycoplasma gallisepticum infected serum in vivo.

30. (New) A fusion protein according to claim 28; wherein said antigenic protein causes an antibody-antigen reaction with Mycoplasma gallisepticum immune serum or Mycoplasma gallisepticum infected serum in vivo.

31. (New) A DNA coding for a fusion protein comprising

(i) an antigenic protein isolated from Mycoplasma gallisepticum causing an antibody-antigen reaction with Mycoplasma gallisepticum immune serum or Mycoplasma gallisepticum infected serum, and

(ii) a signal polypeptide of Herpesvirus outer membrane protein, said signal polypeptide being ligated with said antigenic protein isolated from Mycoplasma gallisepticum at the N terminus thereof, thereby to secrete said antigenic protein extracellularly,

wherein said DNA comprises

(i) a first DNA segment isolated from Mycoplasma gallisepticum and coding for an antigenic protein causing an antibody-antigen reaction with Mycoplasma gallisepticum immune serum or Mycoplasma gallisepticum infected serum, and

(ii) a second DNA segment isolated from a Marek's disease virus gene and coding for outer membrane protein signal sequence, said first and second DNA segments being ligated to each other.

32. (New) A recombinant Avipox virus having a DNA coding for a fusion protein comprising

(i) an antigenic protein isolated from Mycoplasma gallisepticum and causing an antibody-antigen reaction with Mycoplasma gallisepticum immune serum or Mycoplasma gallisepticum infected serum, and

(ii) a signal polypeptide of Herpesvirus outer membrane, said signal polypeptide being ligated with said antigenic protein isolated from Mycoplasma gallisepticum at N terminus thereof, thereby to secrete said antigenic protein extracellularly,

wherein said DNA comprises

(i) a first DNA segment isolated from Mycoplasma gallisepticum and coding for an antigenic protein causing an antibody-antigen reaction with Mycoplasma gallisepticum immune serum or Mycoplasma gallisepticum infected serum, and

(ii) a second DNA segment isolated from a Marek's disease virus gene and coding for outer membrane protein signal sequence, said first and second DNA segments being ligated to each other.

✓ 33. (New) A recombinant live vaccine for anti-fowl Mycoplasma gallisepticum infection comprising as an effective ingredient a recombinant Avipox virus having a DNA coding for a fusion protein comprising

(i) an antigenic protein isolated from Mycoplasma gallisepticum and causing an antibody-antigen reaction with Mycoplasma gallisepticum immune serum or Mycoplasma gallisepticum infected serum, and

(ii) a signal polypeptide of Herpesvirus outer membrane, said signal polypeptide being ligated with said antigenic protein isolated from Mycoplasma gallisepticum at N terminus thereof, thereby to secrete said antigenic protein extracellularly,

wherein said DNA comprises

(i) a first DNA segment isolated from Mycoplasma gallisepticum and coding for an antigenic protein causing an antibody-antigen reaction with Mycoplasma gallisepticum immune serum or Mycoplasma gallisepticum infected serum, and

(ii) a second DNA segment isolated from a Marek's disease virus gene and coding for outer membrane protein signal sequence, said first and second DNA segments being ligated to each other,

and wherein the fusion protein is capable, upon administration into a host cell, of immunizing that cell against subsequent infection with Mycoplasma gallisepticum.

34. (New, Corresponds to claim 22) A DNA according to claim 31, wherein said second DNA segment is isolated from a herpes virus showing infection to fowl.

35. (New, corresponds to claim 23) A DNA according to claim 31, wherein said signal polypeptide is isolated from a Marek's disease virus.

36. (New, corresponds to claim 24) A DNA according to claim 31, wherein said signal polypeptide is isolated from DNA coding for gB protein of a Marek's disease virus.

37. (New, Corresponds to claim 27) A DNA according to claim 31, wherein a sequence of said second DNA segment is codons 1-63 of SEQ ID NO:1 or codons 1-672 of SEQ ID NO:3.

38. (New) A DNA according to claim 31, wherein a sequence of said DNA is SEQ ID NO:1 or SEQ ID NO:3.

39. (New) A recombinant Avipox virus according to claim 32, wherein a sequence of said second DNA segment is codons 1-63 of SEQ ID NO:1 or codons 1-672 of SEQ ID NO:3.

40. (New) A recombinant Avipox virus according to claim 32, wherein a sequence of said DNA is SEQ ID NO:1 or SEQ ID NO:3.

41. (New) A recombinant Avipox virus according to claim 32, wherein said antigenic protein causes an antibody-antigen reaction with Mycoplasma gallisepticum immune serum or Mycoplasma gallisepticum infected serum in vivo.

42. (New) A recombinant Avipox virus according to claim 32, wherein, when said recombinant virus is infected into an avian cell, said antigenic protein is expressed at a surface of the cell.

43. (New) A recombinant Avipox virus according to claim 32, wherein said fusion protein does not include a membrane anchor sequence.

44. (New) A recombinant Avipox virus according to claim 32, wherein, when said recombinant virus is infected into an avian cell, said antigenic protein is secreted outside the cell.

45. (New) A recombinant live vaccine according to claim 26, wherein a sequence of said DNA is SEQ ID NO:1.

46. (New) A recombinant live vaccine according to claim 26, wherein a sequence of said DNA is SEQ ID NO:3.